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In view of the B.O.U. York Conference, no joint meeting with the Club was held in March.

**More aquatic predators of birds**

*by CHARLES R. S. PITMAN*

*Received 2nd January, 1961*

Sufficient additional data, received mainly in the course of correspondence, have now come to hand to justify publication. In particular, there is much information from Southern Africa about predation by otters. These notes follow the previous pattern, *ibid* 77 (⁶, ⁷ and ⁸).

**PART I**

**MARINE**

**(I) MAMMALS**

**ANTARCTIC.** Several correspondents have drawn attention to the fact that penguins are frequently taken by Leopard Seals.

**AUSTRALIA: TASMANIA.** John Warham (¹: p. 607) suggests that seals are a major enemy of the Little Penguin, *Eudyptula minor* (Forster) at many breeding stations off Tasmania. But on a visit to Cat Island—a Bird Sanctuary in the Furneaux Group, in the Bass Strait, he only saw one Fur Seal, *Arctocephalus tasmanicus* Scott & Lord (= *Gypsophoca tasmanica*) and came across only one dead penguin bearing wounds consistent with the bite of a seal. Besides *A. tasmanicus*, the Australian Sea-lion, *Neophoca cinerea* (Péron) is the only other seal in Australian and New Zealand waters which is known to prey on penguins.

**(II) SHARKS**

**EUROPE: BRITAIN.** Brigadier J. A. L. Caunter, President of the Shark Angling Club of Great Britain, writes that he has 'never heard of a bird being found in the stomachs of blue sharks'. The sharks caught at Looc (Cornwall) are nearly all Blue Shark, *Carcharhinus glaucus* L. and during the 4 years 1957–1960 their landed total was 21,480. The majority are small, 25–60 lbs. but many are over 75 lbs., and a small proportion (about 2.4 per cent.) over 100 lbs. Quite a number are cut up for crab-pot bait. It is possible that the Blue Shark may be an occasional

predator of sea-fowl, for Brig. Caunter also writes "I have seen blue sharks apparently stalking herring gulls on the water on warm, sunny days, but have never seen one caught or even in dire peril. Possibly, blue sharks would pick up dead gulls and other dead birds".

SOUTH AFRICA. Professor J. B. L. Smith (2: p. 44) refers to a 14ft. Tiger Shark, *Galeocerdo cuvier* Lesueur landed at Durban which contained amongst a medley of vertebrate and other objects, 3 sea gulls.

Ranger M. A. Steele (22: pp. 41-42) at St. Lucia estuary, Natal, in May 1956, saw a *Pelecanus onocrotalus* L., one of a flock of over 200 fishing and swimming at the edge of the open sea, attacked by a shark (species not identified) as it submerged its head. The bird died immediately the jugular vein having been severed and the corpse was washed ashore.

Senior Ranger I. C. Player (22: pp. 41-42), also in May 1956 at St. Lucia estuary, saw a *Pelecanus onocrotalus*, one of a large group fishing in the open sea, taken by a "Lazy Grey" Shark, presumably the Grey Shark *Eulamia limbata* Muller & Hinde (formerly *Carcharhinus limbatus*), which attains a length of 9ft. The others were unperturbed and continued fishing. It is possible that the preceding observation also refers to the Grey Shark which is well-known as a frequenter of estuaries along the South African coast.

ARCTIC. Dr. Kai Curry-Lindahl, Director of the Nordiska Museum, Stockholm, in a letter, states the Greenland Shark "*Somniosus microcephalus* (Schneider) is known to prey on diving birds". But he could give no details, as in the literature\* available to him in which the predation of birds by this shark is mentioned there are no references to any published records about avian prey. Bigelow & Schroeder (3: p. 520) referring to the food of the Greenland Shark "sometimes sea birds are captured", but they too do not quote specific cases, nor do they say whether this shark eats birds extensively.

CENTRAL PACIFIC: CHRISTMAS ISLAND. Gallagher (24: p. 495) saw an almost fully fledged Crested Tern, *Thalasseus bergii* (Licht.) "attacked by a large sand shark (possibly *Eulamia*) and was pulled under after two attempts . . . Another youngster was found on the beach with half one wing missing, possibly through a similar accident".

### (III) OTHER FISH

No further records

### (IV) CRUSTACEANS

#### OCYPODE CRABS.

AFRICA: CAPE VERDE ISLANDS. Dr. D. A. Bannerman (4: p. 83) quotes from Dr. Murphy's *Marine Ornithology of the Cape Verde Islands* that the Sand Crab *Ocypoda ippeus* Olivier, now *Ocypoda cursor* (L.), on Rhombos Islet, seasonally subsists on the flesh of petrels, in particular the White-faced or Frigate Petrel *Pelagodroma marina hypoleuca* (Webb,

\*Pfaff, J. R. 1950. Hajer. In *Vort Lands Dyreliv, II*. Kobenhavn.

Nybelin, O. 1954. Hakäring, *Laemargus borealis* (Scoresby)—In Andersson: *Fiskar och fiske i Norden, I*. 2nd edition, Stockholm.

Curry-Lindahl, K. 1957. *Fiskarna i färg*. 3rd edition. Stockholm.

Berthelot and Moquin-Tanden), which it hunts in their holes at night during the breeding season. Many of these birds were found torn to pieces in the nest chambers. The crabs, which have a shell width of two inches and a total span of about one foot including the long legs, were watched picking birds' bones, or dragging out fresh victims that had been captured.

It was "noticed that the crabs regularly introduced themselves into the burrows at evening, leaving at once and moving to another nest if their search was not rewarded. Sometimes they would spend a whole night hunting in this way, often getting a rich harvest".

AFRICA: SEYCHELLES. *Ibid* 77 (6), p. 91, the depredations caused by *Ocypode* crabs at a breeding ground of terns in the Laccadive Archipelago are described. So it is interesting that Ridley and Lord Richard Percy (5: p. 43), at a seafowl breeding ground on Desnoeufs Island, Amirantes group, where *Ocypoda cordimana* Desmarest occurs "well inland, burrowing in the guano or living under rocks, they appear to be quite harmless to the birds and their eggs". This *Ocypode* and another land crab, *Geograpsus grayi* H. M. Edwards, similar in habits and habitat, they considered to be harmless scavengers.

#### ROBBER CRAB.

AFRICA: SEYCHELLES. According to Ridley and Percy (5: p. 43), the Coconut Crab or Robber Crab, *Birgus latro* L. on Cosmoledo Island of the Aldabra Group, is said by Mr. H. Savy to eat the eggs of the Sooty Tern, *Sterna fuscata* L.

The pugnacious and carnivorous Land Hermit Crabs, of which *Birgus* is by far the largest, one would expect more likely to attack live prey, rather than injured or dead creatures which are the usual prey of the smaller *Ocypode* Crabs.

GENERAL. CHRISTMAS ISLAND. Gallagher (24: pp. 492-493) records that the hermit crabs are sometimes found within the breeding colonies of ground-nesting seafowl, on which they are reputed to prey (Murphy *et al* 1954). Further, he doubts if the larger and more numerous land crab causes much damage as he has not only seen a Sooty Tern, *Sterna fuscata* L. chase one away, but saw a chick hide without injury in a hole next to a crab.

Presumably the hermit crab is a species of *Coenobita* and the land crab is probably *Geisiccoidea humei* (Wood Mason).

#### GENERAL. SEAFOWL WITH DAMAGED LEGS.

MADEIRA. Bannerman (4: p. 161) records that in 1925, on the Desertas, in the Madeiran Islands group, Meinertzhagen examined 27 examples of Bulwer's Petrel, *Bulweria bulwerii* (Jardine and Selby) eleven of which had a leg severed at the junction of the tarsus and femur or slightly above it. The local boatmen, who had noticed this before, could offer no explanation. Meinertzhagen suggested that the leg had been lost when the bird, while 'taxi-ing' along the surface of the ocean was snapped at by some large fish—a logical conclusion in the case of a small pelagic species.

BRITAIN. DEFORMITIES IN BIRDS. Dr. H. L. Rogerson (of Norwich) (6: p. 561) "The loss of a leg is very common in sea birds. One-legged birds are maimed by the fish from the sea." At gull breeding sites in N.W. Scotland, in 1958, he observed that there was one one-legged bird to each 15 normal Herring Gulls, *Larus argentatus* Pontoppidan and

to each 15 Common Gulls, *Larus canus* L. There appeared to be less damage among the Black-headed Gulls, *Larus ridibundus* L. and Black-backed Gulls, *Larus fuscus* and *Larus marinus*. Despite many expressed views to the contrary, he claims that the gulls are not principally maimed by gin-traps. A few years previously in the same area he had seen a young one-legged Black-backed Gull fly out to sea in fairly rough weather. As it was about to settle some 40 yards out a large fish leapt out of the water and got hold of its remaining leg. But the Gull managed to fly away though it was not possible to see whether it was then legless.

A puzzling feature of this observation is the identity, in British waters, of a fish which would attack so large a bird as a gull; but *ibid* 75<sup>(8)</sup> Glegg has recorded a Cod, *Gadus callarias* L. that had taken a Black Guillemot, *Uria grylle grylle* L. It is a different matter in the case of *Bulweria bulwerii*, which frolics and feeds in a locality much frequented by voracious packs of large predatory fishes.

#### FRESHWATER

##### (I) MAMMALS

###### OTTERS.

EUROPE: SWEDEN. Dr. Kai Curry-Lindahl "From Sweden there are records of *Lutra lutra* L. preying upon Sea birds but this must be very rare."

In a further communication "The predation of otters on birds is rare. We have some data from Sweden. They are not yet published. Mr. Sam Erlinge, Zoologiska institutionen, Lund, is working with an investigation on the otter. He has found by examining the droppings that this carnivore may prey on juveniles of *Anas platyrhynchos* and *Fulica atra* in summer and on adults of the same species in winter. Also, *Sturnus vulgaris* and *Delichon* or *Hirundo* have been found in the material."

I have not included references to the predation of waterfowl by otters in Britain as this is well known.

AFRICA: SUDAN. Mr. R. C. H. Sweeney (now in the Dept. of Agriculture, Nyasaland) describes predations by the Spotted-necked Otter, *Lutra maculicollis* Lichtenstein. In Nov. 1953, on the bank of the Bahr-el-Arab an otter was found with a Fulvous Tree-Duck (or Whistling Teal), *Dendrocygna bicolor* (Viellot), the neck partially eaten. In the same area a month later and again in Jan. 1955 respectively, another *D. bicolor* was found in a similar state and one with part of its breast eaten as well. Though not seen otters were believed to be responsible for both these casualties. Again, in this locality, in Dec. 1955, an otter, probably *L. maculicollis*, was seen to take a duck, *Dendrocygna* sp., one of a large number. The otter reared out of the water to catch it as the duck tried to fly, and then submerged with its prey in its jaws and was not seen again.

NORTHERN RHODESIA. W. F. H. Ansell<sup>(7)</sup>: p. 35) referring to the Clawless Otter, *Aonyx capensis* Schinz "Has been known to kill poultry".

SOUTHERN RHODESIA. Valuable records have been received from Mr. P. St. J. Turnbull-Kemp, the Warden i/c Fisheries, Rhodes-Inyanga Estate and National Park concerning depredations by *A. capensis*. A 'flapper' Black Duck, *Anas sparsa* Eyton taken in the Inyanga river

5,900 ft., 1956. Four fowls and (probably), two Mute Swans, *Cygnus olor* (Gmelin) and 6 domestic ducks and geese, at Inyangana, during 1956-57. One little Grebe, *Podiceps ruficollis capensis* (Salvad.) seen to be taken in the Mare dam, 6,350 ft., 1957.

*Vide* (23: p. 135) "a stock-killing otter can be exceedingly destructive, destroying birds up to the size of swans or geese. Some become 'Persistent poultry raiders'".

**SOUTH AFRICA.** A. Haagner (8: p. 40) referring to otters, species not mentioned, "ravished poultry runs, devouring the eggs and killing fowls and ducks".

G. C. Shortridge (9: p. 192) with reference to *A. capensis* "Otters destroy a considerable number of wild duck and other water fowl, even swans sometimes, these being either pounced upon among the reeds or seized by the feet in open water and held under. When opportunity offers they will sometimes raid poultry yards".

Both in South Africa and Southern Rhodesia the Mute Swan is an introduced species.

C. T. Astley Maberly (10: p. 159) referring to the Cape or Clawless Otter, *Aonyx capensis hindei* (Thomas) "it also catches waterfowl". The *Reports of the Department of Nature Conservation*, in the Administration of the Cape of Good Hope, indicate the extent of avian depredations by otters, mainly the Clawless Otter, *Aonyx capensis*, which is the only species in the region south of Knysna, where it meets the Spotted-necked, *Lutra maculicollis*.

The 1952 Report (11: p. 26) refers to the high losses of birds on a two-acre dam, from otters, as well as the raiding of water fowl nests by the partially aquatic Grey Mongoose, *Herpestes ichneumon* L. and Marsh Mongoose, *Atilax paludinosus* G. Cuvier.

In the Jonkershoek Reserve (11: p. 27), where special predator control measures are taken, not a single nest of waterfowl survived, and in some cases even the parent birds too were destroyed.

In the 1957 Report (12: p. 16), referring to the Worcester region, "the worst enemy of both wild duck and fish is the otter which, due to its shy nature, is extremely difficult to eradicate". At Plettenberg Bay (12: p. 18) otters caused a lot of damage killing in one night the cob of a pair of swans and a flock of ducks; and a turkey the next night.

In the 1958 Report (13: p. 65) it is emphasized that the Clawless Otter is undoubtedly the worst predator of waterfowl in the Jonkershoek Nature Reserve and it "appears to indulge in an orgy of killing whenever it gains access to the Reserve. On two occasions 30 and 45 birds respectively were lost". But on p. 72 it is recorded that not everywhere is this species so destructive to waterfowl.

Mr. A. C. Harrison, who until recently was Fisheries Officer in the Department of Nature Conservation, *in litt.* finds it a mystery "how the Black River Duck, *Anas sparsa* manages to survive in the otter infested reaches of our rivers". He describes how in a wired-in enclosure near such a river otters one night destroyed a flock of domestic ducks turning the place into a shambles.

## MONGOOSE.

AFRICA: SOUTH AFRICA. Reference has been made already to depredations by the Grey Mongoose and the Marsh Mongoose.

The Cape Grey Mongoose (18: p. 72) at the Provincial Wild Life Farm, at DeHoop, is responsible for destroying many waterfowl nests.

SUDAN. Sweeney, at Lake Keilek, in March 1953, found the feathers and bones of a small wader, which was not identified, in the stomach of a Marsh Mongoose.

(To be continued)

## Geographical variation in the Black Woodpecker

by K. H. VOOUS

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The Black Woodpecker, *Dryocopus martius*, has a characteristically palaearctic distribution, ranging continuously from the shores of the Pacific Ocean almost to those of the Atlantic. Geographical variation in this huge area is very small. Apart from an isolated group of populations in western China, where the birds have a distinctly more glossy plumage and on this account are referred to as to a separate geographical race *khamensis*, the geographical variation consists of differences in body size, expressed in the length of the wing. Dementiev (1939) was the first to summarize details of measurements from which he concluded that a small form inhabiting the southwestern parts of the range should be separated from the main group of continuous northern populations. The populations mainly inhabiting the boreal climatic zone remain rather uniform in their measurements and are known under the name *martius* Linnaeus (1758), type-locality Sweden. According to Dementiev (1939) birds from southern, western and central Europe eastwards to western Poland, also Asia Minor, Caucasia, and northern Iran, represent a group of smaller size for which the subspecific name *pinetorum* from Brehm (1831) is available, with type-locality Black Forest, western Germany. Peters (1948) in the VIth volume of his *Check List of Birds of the World* followed Dementiev in the recognition of the race *pinetorum* and of the range assigned to it.

The present author became interested in the geographical variation of the Black Woodpecker by two different reasons: firstly, in view of the preparative work for a check list of the birds of the Netherlands undertaken by a special committee of the Netherlands Ornithological Union; secondly, to deduce from the known present distribution and geographic variation of the species a hypothesis of the post-glacial history of distribution in Europe, comparable to similar histories previously studied for the Spotted Woodpeckers, the Bullfinch, and the Nuthatches. From 1950 onwards he has been collecting measurements of specimens (reaching a number of 147) in at least 16 museums and private collections, including the museums in Amsterdam, Basel, Bergen (Norway), Bonn, Göteborg, Leiden, London, Oslo and Stavanger.